

ATC1E9 : -----MTMTHLNLRLTSLFLV-----SLLKSSSTASSTVDEGNRTSRNFYRTHRFVPRFNHHPYVHTPHR
ATC1E10 : -----MKTNRNR--PINILIV-----FLLLTARAAT-----RNMNTRHRTVPKV-QHAYAYAPHR
ATC1E20 : -----MKNPFSSTTLLSSHGLLALL-----LFFVISTATGVP-----TSASLETSSRNQHRHRSQHS
ATC1E32 : -----MLGIKTPSLLSPSPFSLSKPLSLQHSPSPFDLSISLPTMKNPSSSTISFSSOYRLIILTL-----LFFVTS-TATRIP-----NYASLDTSSRNHRDSFKIQRSY
ATC1E40 : -----MR-TYSPLEPLLVFSTI-----LLASLHSSCT-----RHVSWTITYEEKQ
ATC1E45 : -----MRIAYSPLPLLVFSTI-----MLSLHPSTC-----RHISRATYEEEQ
ATC1E14 : -----MK-VWSQRLSFLIVMIF-----TLAGLHSSAG-----RKLPSMTTTEEFQ
ATC1E11 : -----MGTTLYPRLSF-FVLMI-----MLVVNLSSC-----HFHSRSTSEEPGK
ATC1E13 : -----MRIN-PNPRLSFTLII-----LAIQLSSC-----RHLHIKIGDQNKQ
ATC1E41 : -----MKNKNSQFLIFLMV-----FLVLVHGTT-----ROIKRSINGETE
ATC1E46 : MGIGQCNLALHICHLFERQLQNAFLNKNILLQSTNNKPTIFSPALKSIFLSINLSGLYPTVFMIRNNKPNQLIFL-----FLVLVHGTT-----ROTKRSTNGETE
ATC1E41 : -----MATSNDQNTKS--SHSR--TLLLLFTLS-----LILFSSLTIPMTR-----HQSTS--MVAPFKRVL
ATC1E44 : -----MATTIDQTSIKS--LHFHQVIRLITIIIFLA-----FLFLTGPTSSMMNH-----LHSSSKNMAPSKRFL
ATC1E12 : -----MDIEPLWALGGWFLFSITCMATPKSQS-TIS--ETFKRSHHFFLLFALLFV-----FILLTSPSKPNP-----TNIVAS--ISIKRLL
ATC1E38 : -----MATPKQTSTISDHQCTCAHFFLSLALLFI-----FILLTSTSPKPNP-----TNMAAS--ISIKRLL
ATC1E2 : -----MDIDPFWITGGWLIITDFNMAPTRKSPLCR--TTTKLQAMVFLGLLLI-----YPLARPIDLSKKL-----TASSPSTRAKHTTEIH
ATC1E15 : -----MDIDPFWITGGWFIITDFNMAPARQLSVCE--NTTKLQAMVFLGLLLI-----YPLARPIDLSKKL-----TASSPSTRAKHTTEIH
ATC1E3 : -----MAIKEHRLGTSDRGE-----YIKNDMEYFANRR-----HDMGNA--KTVSKAN
ATC1E14 : -----MASDVGSPNLSTLITLFFLLIMFHTTMAKNDHRFLLTSTRDGG-----YFKKSLME-FSTTR-----PDMGNA--KTVSKAN
ATC1E42 : -----MRSPHTITSLVFLF-----FLIIQTHQRTIDQT-----SNVQHS-----HQIG--SNVQHS
ATC1E5 : -----MKWKIAS-CLSRTLSSFSRSMQHKPRMSRFTF-----VHLLLWMLLVASQ-----QRFSN--IKVQAVE
ATC1E26 : -----MITDNSVDKNTPYSSKPLSHKASPFCINTHPKPKMSRFTF-----THLLALLLLVASQ-----QHPSI--IKVQATE
ATC1E46 : -----MRRHDI-----IKLMLCLLLS-----RFVT--RECQ
ATC1E4 : -----MACP--SKFYSLMLVLEF-Y-----MVMEESYGLNLSQSL-----SLHGCGTG--QRCFYAEA
ATC1E25 : -----MALS--KFYSLFLLGLL-F-----MVLEES--GCKTG--EKCFYGA
ATC1E12 : -----MLRISSSSMALKFSQILFIVLWLSL-F-----LLHLHLYSNFRRLY-----SLNAVEPSLLKHQYRSYRLV
ATC1E13 : -----MATT--RVSHVLGFLWLSL-I-----FVSIGLF-FFSSK-----PINPFPSPVITLALYYPG
ATC1E21 : -----MALKI--SHIPCALLCYLL-L-----LAFHELNRNFKSKINN-----NKQDINNIS-SSSISHPPH
ATC1E31 : -----MALRI--FHTLCVFWLSL-L-----LVFHELNCNFKSKINS-----TKQDINNISKSSSTFSYRPL
ATC1E39 : -----MNIIVKIP--QYFSIIAWLFL-L-----FFHGWCFYFLLNSNN-----IHNHNNVH--VSPRTL
ATC1E11 : -----MTKQ--PKPCSFPHISLLSA-----LFFVLLISFAFTSY-----KLKS--GINSLG
ATC1E3 : -----MAS--LKLWCLVLLV-----LELTSVMECRPL-----VAERFS
ATC1E4 : -----MAS--FKLWCLLIL-----LEFS-VHQRPL-----VAEESP
ATC1E43 : -----MAN--LKFVCLVLLF-----LTLA-MSETR-----HLDQPYL
ATC1E50 : -----MAN--LKLWCLLLF-----LTF5-KSETR-----LDQPYL
ATC1E7 : -----MAN--MRVLFLLIL-----LFF5-TFETRS-----IDRISHR
ATC1E36 : -----MAN--MRLLFFVILM-----LLFS-MFETRS-----IDHVAHR
ATC1E16 : -----MAS--LRCYLCVLLIL-----LSFA-QSEARP-----LDPSVVR
ATC1E35 : -----MAC--VRFYLCVLLIL-----LSFA-QSETRP-----LDPSAVR
ATC1E1 : -----MAN--LKFLCLFLIC-----VLSRSSASRPM-----FPNADGI
ATC1E2 : -----MAK--LSFTFCLLFL-----LLSSIAAGSRPL-----EGARVGI
ATC1E5 : -----MAT--LILKQILITLITF-----SLQTLSSQARTLR-----SYRAVSM
ATC1E6 : -----MAN--LILKQILITLITF-----STPILSSQARTLR-----TYRPTTM
ATC1E8 : -----MAT--LILKQILITLITF-----VMLVGSSDARFSR-----KFSTMP-
ATC1E37 : -----MAT--SMKMRILLISLL-----LMLVGSSDARFSR-----KFSTMP-
ATC1E48 : -----MASRVA--STSRAMTLLMVL-----SATFLTSEARILK-----GGQALQG
ATC1E7 : -----MAS--KALLFVMLT-----FLLVIMEGRILR-----VNSKTK-
ATC1E16 : -----MEACSRKRR--RRRAYTTSTTGAAVFFCGIF-----VFAQFGISSAL-----FAPD--H
ATC1E17 : -----MTHVLVRRQGGQKKRRWDNMTCFFLFFVFFY-----VSQFIVLSSSAS-----VG-
ATC1E23 : -----MTFHRKVGVAAGRGRYSG-AKAAITFLFWILL-----TLAQLGLLAFG-----HEETGKL
ATC1E29 : -----MVSHHKVGVEAARARYAGAAARATIFLFWILL-----TLAQLGVFLV-----HEETGKL
ATC1E10 : -----MK--LFQLCLIVALLI-----VFGSSPRS-----HAIRGSS
ATC1E44 : -----MK--LFHFLILLALLI-----FFSSTPRS-----HAIRGSS
ATC1E20 : -----MKNKNMNPSPRLLCLIVFLFVI-----VLSKASRIH-----VERRRFS
ATC1E6 : -----MRQLMG-LRKLACLATIFFILL-----LLETSSLPD-----RSARYGS
ATC1E27 : -----MG-LRKLACLALLFLILL-----LLETSSVPD-----RSARHGS
ATC1E18 : -----MINRVTRKKEGVLRLRELACLISLILL-----LMSLETPC-----YAVGYGK
ATC1E22 : -----MGNYYSRRKSRKHITTVALIILLFLF-----LYAKASSSSPNIH-----HSTHGS
ATC1E19 : -----MKIKGLMILASSLILA-----FIHQSESASMR-----SLHMNNGS
ATC1E21 : -----MLILSSRYAMKRDVLIIVFTVLVI-----LISRSSIQAG-----RFMTTGRN
ATC1E40 : -----MAAMKYGVSFVILVILLSSSL-----LAHSSSTKSF-----FWLGET-
ATC1E1 : -----MAFGDGLSRFSSISIALIILTFVLP-----LVHSSRSSLSNIRFTN-----MACNLIMFAMHETT
ATC1E25 : -----MGNG--IRALGVASTAG-----LIVFLLVGIL-----ANSAPS--
ATC1E47 : -----MGRGR--ILRALGVAFWG-----VIWFLYVGI-----PNHATTLM
ATC1E24 : -----MGGGGS-CSLSFKVLAAAVATV-----LVLLLVGAL-----ESGAT-KM
ATC1E28 : -----MGCGSSCSLSFKVLGGIATVV-----FVMLLVGAL-----ESGATSKM
ATC1E19 : -----MVFCAL--RVLILITIGFIA-----VQPDVEYGLT-----SVELVLRH
ATC1E33 : -----MVFCAL--RVLILITIGFIA-----VQPDVEYGLT-----SVELVLRH
ATC1E45 : -----MLGSSR--SMFLVLCIGLLADIRYVWSAMRHEFFLKETQAEKAG-----VOTEESKL-----SIGVQFK
ATC1E17 : -----MFTSKN--KVGYLILILISIS-----AFDHVLGAR-----NLKERVEY
ATC1E42 : -----MFMSRS--QVGLLLVLLSIS-----AFHHGVGAR-----NLKENVEA
ATC1E22 : -----MSFGSS-RRIMYSTSLVWVLMF-----VLQIWCVGSNC-----KAGATRLI
ATC1E30 : -----MSFGSS-RRIMYSTSLVWVLMF-----VLQIWCVGSNC-----KAGATRLI
ATC1E27 : -----MTHARE-WRSSLTTLTLMVILLS-----YMLHLFCVYS-----RVGATRI
ATC1E34 : -----MKRKQILAYALLAF-----LIASDQCHYSAG-----IVVQAQK
ATC1E49 : -----MAN--IPTATRLVLLV-----FMMLMRFEAP-----IHTLKL
ATC1E43 : -----MGCR--DILLTFSVALLISLFQ-----LWLFREGQV-----ELSDQLG
ATC1E9 : -----MHYQ--SPRVFLVQKPMVIL-----LLVLFVSGDR-----KEETTVN
ATC1E26 : -----MRNN--HSLRLQWFTLFTVG-----VTLTLMIDAFVLQ-----NNKEDDK
ATC1V3 : -----MSG--PVQQLFHCFSCHK-----LYILLWCAK-----HSKMLFN
ATC1E8 : -----MKVLKRDSEMLLIT-----LYFLTTSMAR-----QDPFLVG
ATC1E18 : -----MHLKG--GVLLITLITLITSS-----LVAIREDPSLIG-----VDRQIPT

ATC1E9 : SCDSF-----IRPYARSMCTELQTHRSSRKOPLLSPPPP--ETDPRYGDKLVPSPNPILN-----
ATC1E10 : SCEFS-----SRPYARSMCTELQTHRSSRKOPLLSPPPP--ETDPRYGDKLVPSPNPILN-----
ATC1E20 : CGSFP-----HKSSSRWCIRFORMNGRRHLGSPPLPPPIEDPRYGEKLVSPNPILN-----
ATC1E32 : PSSFP-----RKSTSSYWCNQFORMKGGHLGP-PPPPPPSEIDPIYGEKLVSPNPILN-----
ATC1E40 : INTKY-----PLPFPQYDLPGISHTVK-SKDDK-----VNKLFGSHAVPGSPNPILN-----
ATC1E45 : LNTEF-----SLPLQOH-LPAIAHTVKFNKDDK-----VQKLYASHLVPSPNPILN-----
ATC1E14 : R-----LSFDGK--RILSEVT-ADKK-----YDRIYGSARLVPSPNPILN-----
ATC1E11 : TVETD-----LSSHFSWKFEMVRERS-SKDE-----SDTIYVSRKTPAGSPNPILN-----
ATC1E13 : RAEAD-----VFTQLSWHFPAKASEGS-SKDEI-----DDPVYGVSYAVPGSPNPILN-----
ATC1E41 : QGSET-----KHSTFLQARSIFKASESSNNK-----IKEVHSYRRLVSPNPILN-----
ATC1E46 : QGSKT-----KHSMFLQALSSIFKASESSNNK-----IKALHTYRRLVSPNPILN-----
ATC1E41 : LESSV-----PASSTMDLRPKAST--RRSRTS-----RRREFGDAHEVPSNPISNR-----
ATC1E44 : LQST-----PSSSTMKMRPTAH-RRSGTSSS--S--ARKRRREFRAEAHEVPSNPISNR-----
ATC1E12 : LESSE-----PASTTMNLHPKHTQGTRTSSSSSSPPSS--KSTRKKFGAAHEVPSNPISNR-----
ATC1E38 : LESSE-----PASTTMNLHPKHTQGTRTSSSSSSSTSS--SKSTRTKFGAAHEVPSNPISNR-----
ATC1E2 : PHESK-----YAPPSSTTAAAAAADMTSSTTTIVPTTPA--ASASNOQFKAHEVPSNPISNR-----
ATC1E15 : PQESK-----YTPPSRTTDDAAA--VTSSITTTVSATP--VSASRQOFKAHEVPSNPISNR-----
ATC1E3 : ITHIP-----PPSSRRRGRFRAHRSPLPWQEG--VFMSAHEVPSNPISNR-----
ATC1E14 : VTHIP-----PPSSRRRGRFRAHRSPLPWQEG--VFMSAHEVPSNPISNR-----
ATC1E42 : DMVAT-----SPEGKRRERFRVRPMTTLKLGK-----MIGANEHGVSPNPISNR-----
ATC1E5 : AVHFK-----PNPAQLTSKSHKGNVLPVWVAE-----KTHKSSSPNPVGNHNPSPKQ-----
ATC1E26 : AVHFK-----LKPQLTSKLHVGDPLPNVAE-----KTHKSSSPNPVGNHNPSPKQ-----
ATC1E46 : EVHFK-----IGPAKIAKPNNARVMPMTWEE-----KWHKHSSNPVGNHNPSPKQ-----
ATC1E4 : VSPVD-----VKSRLVVLVTGGLRG-----PTG-STNGEKELEIR--ELAAVSPDPILHNGGSPKPRTP-----
ATC1E25 : ASLVLD-----FKSRKLVVSRGVDVGE-----PTSNSTNGEKELEIR--ELAAVSPDPILHNGGSPKPRTP-----
ATC1E12 : SRKVL-----SDRFDFTPFHSRDNRSR--HNHRSGEQYDGEIDPRYGEKLVSPNPILN-----
ATC1E13 : RRALA-----VKTDFTPFL-KDLRR--SNHRKALPAGGEIDPRYGEKLVSPNPILN-----
ATC1E21 : NRKVL-----VSKDFTPFQKHQQHNPPLDEEVHKAARSEIDPRYGEKLVSPNPILN-----
ATC1E31 : TRKVV-----ARKFDFTPFQKHQQHNPPLDEEVHKAARSEIDPRYGEKLVSPNPILN-----
ATC1E39 : NRKML-----VSNVDFTAISRHHQR--HMP--MHSDPTRGEIDPLYGEKLVSPNPILN-----
ATC1E11 : HKRTL-----ASNDFTPFLKNNKRT--QRQKSPSLTVKENGFWYNDEEVPSNPILN-----
ATC1E3 : GSSRL-----KKIRRELPERLKEMKGT-----SEGEETILGNLTSKLSGSPDPILH-----
ATC1E4 : DSGNI-----RKIMRELLKRSSEELKVR-----SKDQTVLG-TLQSKLSGSPDPILH-----
ATC1E43 : GRKNL-----ARILQELQKSKQVDVR-----FDDGDVARSPEKLSGSPDPILH-----
ATC1E50 : GRKNP-----ARMLQELNKSQKL-----FEDSDVTVGSPYEPKLSGSPDPILH-----
ATC1E7 : GDRSL-----IETAEQMKESJAR-----HELIEGPNESPLSGSPDPILH-----
ATC1E36 : RDRSL-----IETAEQMKESJAR-----HEMTGGFNECFLSGSPDPILH-----
ATC1E16 : RNL-----IRTIRALGESE-----AVGDAQASKVSGSPDPILH-----
ATC1E35 : RNL-----IRTIRALGETETYNV-----KQGNEGMIGGRFSKVS-GSPDAQH-----
ATC1E1 : KGRGM-----MIEAEVLKASMEK-----LMERGNEFSMLSGSPDPILH-----
ATC1E2 : KVRGL-----KVSLEATSPTEVDD-----QAAGSHGKSPERLSGSPDPILH-----
ATC1E5 : GMDMS-----QVLLHLEHGFDSLKFK-----GHNERR-FLVSSDVS-GSPDPILH-----
ATC1E6 : GMDMS-----QVLLHLEHGFDSLKFK-----GQDERR-FLVSSDVS-GSPDPILH-----
ATC1E8 : KKFES-----SHILRELGYDMPKIE-----YRRR--WMLDQDLS-GSPDPILH-----
ATC1E37 : EKLVS-----RHILRDLGYEMSKVE-----HYRR--WMLDQDLS-GSPDPILH-----

PtCLE48: NANNS-----RHLLLELGFDLKLE-----HYRRLSTLSVASDQLSTGSPDPH-----
AtCLE7 : -DGES-----NDLLKRLGYNSELK-----RIGRELSVQNEVDPSGSPDPH-----SYPLSSKPRI-----
AtCLE16: YPSLP-----RKAGHFHEMASQAPKATVSFTGQ-----RREENRDEYVKDKLWHTSPNPLH-----
AtCLE17: YSRL-----HLVASPPPPPPKALRYSTAP-----FRGPLSRDDIYGDDKVVHTSPNPLH-----
PtCLE23: VKSLP-----RKARFFET-RFHAPPSQDQPLDID-----KGDPDTVYEDDKTIHTSPNPLH-----
PtCLE29: VKSLP-----RKARVFETGSVHASPNDQPVNID-----GGDPDAVYEDDKTIHTSPNPLH-----
PtCLE10: SAPS-----TSQQVFRS-----PFSPS-----PFAQRAEEFASDKRVFAGSPNPLH-----VKR-----
PtCLE44: SAPS-----TSQQVFRS-----PFRAS-----PFAERAKEEFESDKRVFAGSPNPLH-----VKR-----
AtCLE20: SKPS-----GENREFLP-----SQPTF-----PVVD-AGEILPDKRKVKTSNPLH-----VKR-----
PtCLE6 : SKNT-----GSTSQLMG-PVKSHG-----GGLRGD-----KDEGGDATLGDEKRVFTSPNPLH-----VR-----
PtCLE27: FKNT-----GSTAQLTG-PVKSHG-----GGLRGD-----RDEEGDATLGDEKRVYTSNPLH-----VR-----
PtCLE18: FSSVK-----GGSSSELRNPNAMSNV-GGLKRN-----ANKDGNEIFGADKRVYTSNPLH-----VR-----
AtCLE22: LKKS-----GNLDPKLHDLDSNAASSRGSKYTN-----YEGGEDVFEDSKRVFTSPNPLH-----VR-----
AtCLE19: -----YEEEEQVLKYDS-MGTIANSS-----ALDSKRVFTSPNPLH-----VR-----
AtCLE21: RNLSVARS-----LYYKNHHKVITEMSNFNKVRRRSS-RFRRTDGDGEEEEKSTIPTSPNPLH-----VR-----
AtCLE40: -----QDTKAMKKEKK-IDGGT-----ANEVEEQVFTSPNPLH-----VKHPIPT-P-----
PtCLE1 : VAAGNRAR-----ASAQDIHQSYKITR-MGKGASSLV-----TDEESEVFTSPNPLH-----NNNPPTTRP-----
AtCLE25: ---V-----PSSENV-KTLR-----FSGK-----DVNLFHVS-KKRVNBPDPH-----RKAEYSRRPPRV-----
PtCLE47: ARIRV-----PAAGTF-QHLK-----LSGRESH-----LIRH-DMDLNYVS-KKRVNBPDPH-----RKTVQSRPPQGS-----
PtCLE24: TERTQ-----TVLDSIAQDRLRRHE-ELIGREKL-----VYNP-ELDLNFVMKKRVNBPDPH-----RRAGNSRRPPGRA-----
PtCLE28: TTSRL-----NSVQAT-QNDLKDDHEKVDIGREKL-----VYNS-ELDLNFVMKKRVNBPDPH-----RRAGNSRRPPGRA-----
PtCLE19: NQKAQ-----GTAPQS-QRVLKDVDMQGMOTKKS-----AHAS-KTFDRSQSKRAVRSPDPH-----VRERDVYKAIENVHRASIISVPQVEIINRQ-----
PtCLE33: DRKAH-----GTLPHS-QRSLKDVDMQGMOTKKS-----AQAN-KTFDPSQTSKRVRRSPDPH-----VRS-----
AtCLE45: TLEDQ-----EMLNKN-RRVLEEVENKDKIKAEETQ-----ERKN-KTEDSFKSKRVRRSPDPH-----VKAQPFSS-----
PtCLE17: TKKT-----EGS-----VNIQDA-----TVSRAVSPDPH-----VR-----
PtCLE42: KEKTQ-----NEK-----EGADSEDINGYVA-----NUNVVPSPDPH-----VR-----
PtCLE22: QENDMAKFKEGNNIPANNYSKEEYFRKYFNERGNT-----SHGFNKTEKGFEESKRVSPDPH-----VR-----
PtCLE30: QENGMEKFES-SDITKDNYSKEKHFRKYFNERANT-----SYGFNKTEKGFEESKRVSPDPH-----VR-----
AtCLE27: PET-----PASGKRQEEDLMKKYFG-AGKF-----PPVDSFVGKGISESKRVSPDPH-----VR-----
PtCLE34: SVDR-----LKNAQPIRLSTRYKLAS-----WKSGTKFKDITHKASPSSTIGVRHRSIIHV-----
PtCLE49: DKRL-----LSKVLNAKSRMEFHG-----RRMSISESATDLSSEPNHE-----SHPPGNP-----
AtCLE43: KDRNT-----LMTSKNKNKNEDVQRLFQRYFKGRSFG-----LNNTNSRFEDSNRTISSPDRH-----
PtCLE9 : VHGLQ-----NQPPSSTEKQQLR-----HSFDTFFSSKKRVNASPDPH-----VR-----
AtCLE26: TKEIT-----TAVNMNNSDAKEIQQELEDGSR-----NDDL SYVASKRVSPDPH-----VRFLLSRFLSLLTNPYPYLHICVLDVSV-----
AtCLEV3 : WQMM-----MKMESEWVGANGEAEK-----AKTKGLGLHELTIVSPDPH-----HVNPQRPRNNFQLP-----
AtCLE8 : VEKDV-----VPAGTDLQNKAKP-----HLPNLFRTRVFTSPNPLH-----IISPPQPGSLNYARN-----
AtCLE18: GPDPLHN-----PPQSPKHHHWIGVEENIDRSWN-----YVDYESHHAHSPITHNSPEALYCHLIGV-----